Environmental Protection Agency, Region 9
Drinking Water Tribal Set-Aside Grant
Project Proposal Form

Project Name	Hopi Arsenic Mitigation Project
Applicant Information	Tribe Submitting Proposal Hopi Did you receive Drinking Water Tribal Set-Aside money for this project this year? Yes Did you receive drinking water state revolving fund money for this project this year? No
Contact Information	Name Lionel Puhuyesva Title Water Resources Program Director Email Lpuhuyesva@hopi.nsn.us Address PO Box 123 Kykotsmovi, AZ 86039 Fax Number 928-734-3609 Phone Number 928-734-3711
Service Area Information	Total Population Served 3,175 approx. Total number of connections 851 Number of meters 705 approx. Percent of connections metered 83% approx. Is billing based on meter readings? Only for the 125 connections served by the Sipaulovi Water Association Number of tribal people served by project(s) 3,175 approx. Number of non-tribal people served by project(s) 0 approx.
Water Utility Information	Project Location First and Second Mesa of the Hopi Reservation Water System Owner The primary owner of the HAMP will be the Hopi Public Utility Authority, and to a lesser extent the Villages of Shungopavi, Mishongnovi, Sipaulovi, and the First Mesa Consolidated Villages. Will the proposed project be owned by a different entity? If yes, please explain The HPUA will own and operate the proposed project (HAMP), which will be the water wholesaler, and the villages will continue to own and operate their own respective water systems. Is this a Public Water System? Yes If Yes: What is the Public Water System ID Number? 090400106, 090400107, 090400394, 090400259 Is this a Community or non-Community Water System? Community Is this a For-Profit or Non-Profit Water System? Non-Profit Does this system have a certified water operator? Yes
Water Supply Information	How many storage tanks are connected to the system? Currently 6, to be 7 after this project. What is the capacity of each tank (in gallons)? 500k, 200k, 8k, 250k, 75k, 16k, see the HAMP PER for additional info How many wells are connected to the system? 5 currently, to be 2 after this project. What is the maximum capacity of each well (in gpm)? 100, 110, 65, 9, 90, see the HAMP PER for additional info How many pressure zones are in the system? 7 now, 9 after this project. Describe each pressure zone (i.e. which tanks are used for each zone). FMCV has four pressure zones. Also each of the following villages has its own pressure zone: Shungopavi, Upper Sipaulovi, and Lower Sipaulovi, and the HAMP will have two distinct pressure zones. Are there water outages? Yes If so, how often? Occasionally What is the reason for the outages? Power failure, pump failure

Other Background Information	Describe any existing water conservation measures Well pump and tank level control utilized by some of the systems. Does the Tribe and/or water utility have a source or wellhead protection program? Yes Is the Tribe or system in the process of implementing one of the above programs? No Is the proposed project a consolidation project? No If so, how many systems will be consolidated?_____What are their populations?_____ What is the per capita, per day water consumption in gallons/person/day of treated water for the water system? Average of 58 GPCD for the four villages.
Project Need	Describe why this project is necessary The four village water systems of First and Second Mesa have been out of compliance with the arsenic rule since its implementation and are under EPA compliance plans to participate in the HAMP. The HAMP will provide an arsenic compliant source through the newly drilled Turquoise Trail Wells, each capable of 400+ GPM, and wholesale the Turquoise Trail water to the individual systems, which will then have no need to rely on their existing non-compliant source wells. The HAMP is considered to be the most cost effective and sustainable of the arsenic compliance solutions available, as documented in the HAMP Preliminary Engineering Report.
Project Description	Description of Proposed Project Construction of approx. 35 miles of 12", 8", and 4" water main, construction of two water storage tanks, well buildings, disinfection facilities, backup generators, and O&M equipment and tools. The HAMP is a non-treatment solution, centered on the Turquoise Trail Wells, and transmission of arsenic compliant water to the affected villages.
Project Cost	Estimated Total Project Cost $16,914,000 Cost Breakdown by Health Category: Health Category / Corresponding Project Component / Estimated. Component Cost / # Connections Benefiting / Population Served….. 1) 6C / Entire Project / $ 16,914,000 / 851 / 3,175 2) _____ / _____ / $_____ / _____ / _____ 3) _____ / _____ / $_____ / _____ / _____ 4) _____ / _____ / $_____ / _____ / _____
Committed Funding	Have other entities committed to contribute funding for this project? Tentative commitments exist from the Tribe to contribute $2,000,000, and also from USDA and HUD, though their contribution amounts are undefined at this time and subject to application by the Tribe and approval by the agency. Have you applied for funding from other agencies? Tribal application to USDA is pending
Project Status	Feasibility Study Complete? Yes If Yes, please attach Environmental Information Document Complete? Yes If Yes, please attach Design Complete No If Yes, please attach

Signature of Person Certifying this information is accurate_____

Title of Above Person_____ Date_____

Schedule A: Planning and Design

Item	Description	Quantity	Units	Units Cost	Total
1	Geotechnical Investigations	1	LS	$ 75,000.00	$ 75,000.00
				Pre-Construction Total:	**$ 75,000.00**

Schedule B: Construction

Item	Description	Quantity	Units	Units Cost	Total
	Power Line, Generators, and Fuel Storage				
2	APS Power Line Extension	15	MI	$ 120,000.00	$ 1,800,000.00
3	375kW Generator	2	EA	$ 130,000.00	$ 260,000.00
4	40 KW Generator	1	EA	$ 45,000.00	$ 45,000.00
5	Bulk Fuel Storage Tank	2	EA	$ 45,000.00	$ 90,000.00
6	Bulk Fuel Storage Tank - 1000 GAL	1	EA	$ 15,000.00	$ 15,000.00
	Water Mains, Gate Valves, ARVs, PRVs				
7	12" Water Main, 235 PSI rated	75,300	LF	$ 48.00	$ 3,614,400.00
8	8" Water Main, 235 PSI rated	62,350	LF	$ 35.00	$ 2,182,250.00
9	8" Water Main, 305 PSI rated	5,500	LF	$ 40.00	$ 220,000.00
10	6" Water Main, 235 PSI rated	25,600	LF	$ 30.00	$ 768,000.00
	4" Water Main, 235 PSI rated	8,300	LF	$ 20.00	$ 166,000.00
11	12" Gate Valves	22	EA	$ 3,000.00	$ 66,000.00
12	8" Gate Valves	18	EA	$ 1,700.00	$ 30,600.00
13	6" Gate Valves	13	EA	$ 1,500.00	$ 19,500.00
14	4" Gate Valves	8	EA	$ 1,000.00	$ 8,000.00
15	Pressure Reducing Valve & Vault	2	EA	$ 20,000.00	$ 40,000.00
16	Air Relief Valves	15	EA	$ 2,750.00	$ 41,250.00
	Pumps and Motors				
17	100 hp Submersible Well Pump, Controls, Drop Pipe, etc.	2	EA	$ 125,000.00	$ 250,000.00
18	60 hp Booster Pump, Controls, Meter, etc.	2	EA	$ 90,000.00	$ 180,000.00
19	15 hp Booster Station, Controls, etc.	1	LS	$ 140,000.00	$ 140,000.00
	Tank Level Control and Connections				
20	Altitude Valve & Vault	4	EA	$ 30,000.00	$ 120,000.00
21	Flow Control Valve	2	EA	$ 5,000.00	$ 10,000.00
22	Master Meter	4	EA	$ 10,000.00	$ 40,000.00
23	Existing Tank Interconnection	3	EA	$ 20,000.00	$ 60,000.00
24	Telemetry	2	EA	$ 50,000.00	$ 100,000.00
	Disinfection Facilities				
25	HAMP Disinfection Facility	2	EA	$ 30,000.00	$ 60,000.00
26	Village Disinfection Facility	3	EA	$ 30,000.00	$ 90,000.00
27	Power Extensions to Village Disinfection Facilities	1	LS	$ 75,000.00	$ 75,000.00
	Road Excavation and Repair				
28	Road Excavation and Repair - Unpaved Open Cut	7,050	LF	$ 26.00	$ 183,300.00
29	Road Excavation and Repair - Paved Open Cut	4,350	LF	$ 170.00	$ 739,500.00
30	Paved Road Crossing - Bore with Casing	750	LF	$ 480.00	$ 360,000.00
	Water Storage Tanks				
31	260,000 gallon Water Storage Tank	1	LS	$ 338,000.00	$ 338,000.00
32	110,000 gallon Water Storage Tank	1	LS	$ 165,000.00	$ 165,000.00
				Construction Total:	**$ 12,276,800.00**

Schedule C: O&M Support

Item	Description	Quantity	Units	Units Cost	Total
33	1-Year Start-Up Assistance	24	DAYS	$ 500.00	$ 12,000.00
34	O&M Materials, Equipment and Space	1	LS	$ 355,000.00	$ 355,000.00
35	O&M Manual Development	1	LS	$ 40,000.00	$ 40,000.00
				Post Construction Total:	**$ 407,000.00**

Planning & Design Total (Schedule A)	**$ 75,000.00**	
Construction Total (Schedule B)	**$ 12,276,800.00**	
O&M Support Total (Schedule C)	**$ 407,000.00**	
Contingencies, 10% (Schedules A, B, & C)	**$ 1,275,880.00**	
Subtotal		**$ 14,034,680.00**
TERO/Tribal Tax, 0.5%	**$ 70,173.40**	
Tribal Administrative Support Fee	**$ 282,943.60**	
Tribal Fees		**$ 353,117.00**
IHS Engineering Program Support, 6% (EPS)	**$ 842,080.80**	
IHS Project Technical Support Fee, 12% (PTS)	**$ 1,684,161.60**	
PTS &EPS		**$ 2,526,242.40**
	Total Cost	**$ 16,914,039.40**
	Rounded	**$ 16,914,000.00**